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Army Service Forces
Quartermaster Corps
CLIMATIC RESEARCH LABORATORY
Lawrence, Massachusetts

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SE. PRATT GERRIER

Monthly Report - 1 January 1945

1. The following reports have been sent to the Office of The Quartermaster General for the approval of Colonel Georges F. Doriot;

Report No. 47 - 1 December 1944 (Confidential)

Type X Mask

Report No. 159 - 22 December 1944

Shoe, Service, Types II and III, Waterproofness of
Field and Laboratory Studies of New and Worn Shoes
Fifteen Tables and Eight Figures

Service shoes, Types II and III, new and worn, respectively, were studied in the laboratory as well as during fourteen marches in wet terrain in the field. Particular attention was given to moisture uptake by the shoes and moisture penetration into the sockgear by Type II service shoes with grain out leather and Type III shoes with flesh out leather. The terrain in the field included a shallow stream bed with free water, wet meadow, wet grass, snow and slush and mud. Shoes were studied dubbed and undubbed. In most instances different types of test shoes were worn on the right and left foot. It was concluded from the field tests that there was no real difference in rate or amount of leaking between flesh out or grain out shoes. Furthermore, a thorough application of dubbing had no demonstrable effect upon water pickup or penetration.

The laboratory studies consisted of frequent observations of the different shoes in regard to moisture penetration. To the test media, mud, free water or wet sand, respectively, were added azo rubine and gentian violet dye. Inspection of the sockgear after varying periods of exposure as well as dissection of the shoe showed that the most of the leakage occurred through the inseam. The nail holes were also vulnerable. In Type II service shoe, the seam at the toecap leaked. The temporary expedient of covering the inseams with adhesive tape was effective in reducing a significant amount of leakage.

It was recommended that the Type III service shoe (flesh out) be considered no more vulnerable to moisture penetration and moisture pickup than the Type II shoe (grain out).

2. In the Provisional Reports, tests on the following items were discussed:

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R E S T R I C T E D

Jungle Uniforms
Lighter, Individual
Insulated Sleeping Bag Pad
Gloves, Work, Waterproof
Bag, Sleeping, Wool, Effects of Water Repellents on
Parka, Field, Pile
Stove, Gasoline, Cocking, 1-Burner
Stove, C Ration Can, Experimental
Shoes, Service, Types II and III, Waterproofness of

3. Plans for the Wet Cold Field Trials are essentially complete and testing will begin within a fortnight. This laboratory has been designated as the test agency for the trials which have been authorized and sponsored by Military Planning Division, OQMG. There will be four test teams of 20 test subjects each, which will be in the field during the greater part of a four month period. An appropriate number of test officers, tactical officers and service troops will be attached.

The purpose of the test as stated in the initial directive is twofold.

a. "To evaluate each test item individually, with correction of weaknesses and deficiencies as discovered, followed by retesting, so that radically improved and thoroughly tested designs for any articles which display weaknesses may be available at the conclusion of the test program."

b. "To determine what combinations of Quartermaster items provide the best all-round outfit for military operations in wet cold climates, from the point of view of the fighting efficiency, mobility, health and comfort of the individual soldier."

JOHN H. TALBOTT
Colonel, M. C.
Commanding